

Interactive comment on “Hydrological characterization of watersheds in the Blue Nile Basin” by S. G. Gebrehiwot et al.

Anonymous Referee #1

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I recommend the publication of the manuscript only up on major revision: The major concerns can be recapped in the following two points. 1). Appropriate analysis tool was not chosen. 2). The manuscript was not written to communicate the message appropriately

General Comments:

The paper seems to present statistical analysis of effects of watershed physical properties on hydrological responses of the Blue Nile using historical average values. Even

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though the study appears to be important, the manuscript has got major problems both in terms of articulating the objectives and research questions and choice of analysis methodology. I found the idea of characterizing the 32 sub-watersheds in a way that helps to understand which watershed variable significantly affects which hydrological responses to be very interesting. But, the idea of using regression analysis among categorical variables and continuous data based hydrological variables does not make sense. The results were not presented in a convincing way. Moreover, the manuscript is full of short unclear and incorrect sentences.

To me the main message could be, despite lack of clarity in the manuscript, the need to classifying the 32 watersheds based on watershed properties (variables) that influence their hydrologic responses the most. Thereby one can understand the hydrology of the watersheds (Blue Nile Basin) and that the results can be used for land and water management planning purposes which could be significant contribution for the country under consideration. But because of these major flaws the authors may need to formulate their research questions and plan for adequate analysis tool.

Specific Comments:

It was mentioned that the research is based on information from 1953-1964; which definitely have changed through the last half century. This brings that the strength of the study to be the methodology used in the study than the findings. The presentation of the results can be equally important but simply in order to show the soundness of the methodology.

Literature review part was not done to put the research under question in perspective, requiring more literature review and elaboration in support of the significance of your study.

In terms of writing, most of the paragraphs require rewritings (clarity of the message and logical flow of the sentences need to be given more attention). It is also very important to follow proper formatting of the paper for quality presentation. Some of the

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sub-topics create more confusion than enhancing the clarity of the research: like the sub topic “The USBR study and selection of watersheds” under Data and Methodology (read as Materials and Method).

Please also note the supplement to this comment:

<http://www.hydrol-earth-syst-sci-discuss.net/7/C1584/2010/hessd-7-C1584-2010-supplement.zip>

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 7, 4089, 2010.

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